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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,036	08/15/2001	Andre Latenstein Van Voorst	NL000446	1191

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EXAMINER

OMETZ, DAVID LOUIS

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 08/18/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/930,036

Applicant(s)

LATENSTEIN VAN VOORST,
ANDRE

Examiner

David L. Ometz

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-15 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2653

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Andoh (US Pat 5289088).

As per claim 1, Andoh shows a scanning device in figures 1-3, 6 for scanning a disc-shaped information carrier (fig. 6), which scanning device is provided with a table 104 which can be rotated about an axis of rotation and on which an information carrier 103 can be placed, and with a scanning unit 102, and a linear motor by means of which the scanning unit can be displaced with respect to the table predominantly in a radial direction, which linear motor is provided with a first 2 and a second part 1 which are displaceably guided with respect to each other by means of a straight guide 6/9, the first part 2 being provided with pairs of magnets 12 having opposite directions of magnetization directed substantially perpendicularly to the guide, and the second part 1 being provided with an electric coil system 7 comprising winding portions extending substantially perpendicularly to the directions of magnetization and perpendicularly to the guide, and the linear motor being provided with a control unit 19-21 for controlling an electric current in the coil system 7, characterized in that, in operation, the control unit admits an electric current to at least one of said winding portions and controls said electric current, if said winding portion is situated in a magnetic transition field between two adjacent magnets having opposite directions of magnetization (see col. 6, lines 8-48).

Art Unit: 2653

As per claim 3, the scanning device as claimed in claim 1, characterized in that the linear motor comprises a sensor (hall sensors 8) for measuring a mutual position of the two parts of the linear motor in a direction parallel to the directions of magnetization, and in that the control unit comprises a control loop for adjusting a desired mutual position of the two parts by means of a signal supplied by the sensor 8, which signal corresponds to a measured mutual position of the two parts.

As per claim 6, the scanning device as claimed in claim 3, characterized in that the sensor comprises three Hall sensors 8, which each measure the strength of a magnetic field originating from the magnets and present near, respectively, one of the three coils.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by the anonymously disclosed Research Disclosure entitled "Three-phase Linear Motor" (hereinafter "Research Disclosure").

As per claim 1, the research disclosure shows a scanning device for scanning a disc-shaped information carrier, which scanning device is provided with a table which can be rotated about an axis of rotation and on which an information carrier can be placed, and with a scanning unit, and a linear motor by means of which the scanning unit can be displaced with respect to the table predominantly in a radial direction, which linear motor is provided with a first 5 and a second part 3 which are displaceably guided with respect to each other by means of a straight guide 4, the first part 5 being provided with pairs of magnets 6 having opposite directions of magnetization directed substantially perpendicularly to the guide, and the second part 3 being provided with an electric coil system 7 comprising winding portions extending substantially

Art Unit: 2653

perpendicularly to the directions of magnetization and perpendicularly to the guide, and the linear motor being provided with a control unit (inherent) for controlling an electric current in the coil system, characterized in that, in operation, the control unit admits an electric current to at least one of said winding portions and controls said electric current, if said winding portion is situated in a magnetic transition field between two adjacent magnets having opposite directions of magnetization.

As per claim 2, the scanning device as claimed in claim 1, characterized in that the guide comprises a single round shaft 4 and at least one bushing (the portion on sledge 3 that directly surrounds the guide shaft 4) provided around said shaft 4.

As per claim 3, the scanning device as claimed in claim 1, characterized in that the linear motor comprises a sensor (Hall sensor) for measuring a mutual position of the two parts of the linear motor in a direction parallel to the directions of magnetization, and in that the control unit comprises a control loop for adjusting a desired mutual position of the two parts by means of a signal supplied by the sensor, which signal corresponds to a measured mutual position of the two parts.

4. Claims 1, 3, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshiura et al (US Pat 5587852).

As per claim 1, Yoshiura et al shows a scanning device in figures 1, 3, and 8 for scanning a disc-shaped information carrier 9, which scanning device is provided with a table which can be rotated about an axis of rotation and on which an information carrier can be placed, and with a scanning unit 3/4, and a linear motor by means of which the scanning unit can be displaced with

Art Unit: 2653

respect to the table predominantly in a radial direction, which linear motor is provided with a first 11 and a second part 3 which are displaceably guided with respect to each other by means of a straight guide 5, the first part 11 being provided with pairs of magnets 60/61 (fig. 1) having opposite directions of magnetization directed substantially perpendicularly to the guide, and the second part 3 being provided with an electric coil system 63/64 comprising winding portions extending substantially perpendicularly to the directions of magnetization and perpendicularly to the guide, and the linear motor being provided with a control unit 32-37 for controlling an electric current in the coil system, characterized in that, in operation, the control unit admits an electric current to at least one of said winding portions and controls said electric current, if said winding portion is situated in a magnetic transition field between two adjacent magnets having opposite directions of magnetization.

As per claim 3, the scanning device as claimed in claim 1, characterized in that the linear motor comprises a sensor 65/66 for measuring a mutual position of the two parts of the linear motor in a direction parallel to the directions of magnetization, and in that the control unit comprises a control loop for adjusting a desired mutual position of the two parts by means of a signal supplied by the sensor, which signal corresponds to a measured mutual position of the two parts.

As per claim 7, the scanning device as claimed in claim 1, characterized in that the first part of the linear motor is provided with two rows of permanent magnets 60/61 extending substantially parallel to the guide, the pitch between said permanent magnets being substantially constant, each pair of adjoining magnets of each row having opposite directions of magnetization, the two rows being arranged, viewed in a direction parallel to the directions of

Art Unit: 2653

magnetization, at some distance from each other, and each pair of oppositely arranged magnets of the two rows having equal directions of magnetization, and said winding portions 63/64 of the coil system, viewed in a direction parallel to the magnetization direction, being situated between the two rows so as to be closer to one row than to the other row (see fig. 1).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Research Disclosure. The research disclosure sets forth a scanning device that uses three coils overlapping a series of alternating pole magnets in order to drive an optical head. As per claim 5, the research disclosure additionally shows that the coil system comprises at least three electric coils, which each include two parts having winding portions extending substantially perpendicularly to the directions of magnetization and perpendicularly to the guide, a pitch "W" which substantially corresponds to a pitch "P" between two adjacent magnets having opposite directions of magnetization being present between the two parts of each coil. However, the research disclosure does not disclose a pitch which is substantially equal to $2/3$ or $4/3$ times the pitch between said two magnets being present between each pair of coils of said three coils. However, the examiner takes Official Notice that the use of coils with a $2/3$ or $4/3$ overlapping pitch profile for linear motors is old and well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a $2/3$ or $4/3$ pitch profile for

Art Unit: 2653

the 3 overlapping coils in the research disclosure since doing this would ensure constant overlapping coverage between the coils, thus effecting a continuous drive across the opposing magnets.

7. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Applicant's arguments filed 6/11/04 have been fully considered but they are not persuasive. Applicant asserts on pages 9-10 that none of the reference teach a control unit which admits an electric current to control the electric current in at least one of the windings when the winding is situated in a magnetic transition field between adjacent magnets having opposite directions of magnetization. However, the examiner maintains that, as broadly claimed, the coils in each of the cited references will inherently always be between two opposite polarity magnets, and therefore the control unit issuing normal control current to the coils in order to move the linear sled/actuator will automatically meet the claimed limitations. Therefore, the rejections are still deemed proper and have been maintained.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 2653

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Ometz whose telephone number is (703) 308-1296.

The examiner can normally be reached on M-W, 6:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David L. Ometz
Primary Examiner
Art Unit 2653

DLO
8/17/04